



Catastrophe Risk Assessment Report

HABOR ENTERPRISE
LIABILITY & PROPERTY

CAS CASE COMPETITION 2025

Presented by AutoCorrect

Key objective

Assess hurricane risk exposure and determine whether HELP's current **underwriting strategy and premium structure** are sufficient to sustain **long-term profitability**.

Hurricane Risk

High exposure in Texas, Florida, and the Gulf Coast; rising TIV; **potential underpricing**.

Loss Comparison

Stable non-cat losses; **volatile hurricane losses** with extreme loss ratios

Underwriting & Risks

Premiums lag behind risk growth; **underpricing** in high-risk areas; reinsurance may be needed.

Strategic Recommendations

- Adjust Premiums:** Increase catastrophe-specific rates and introduce tiered pricing.
- Enhance Underwriting:** Apply higher deductibles and stricter policies in high-risk areas.
- Utilize Reinsurance:** Offset extreme hurricane losses through reinsurance.
- Improve Risk Modeling:** Leverage data analytics and climate projections for better forecasting.

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RISK

UNDERWRITING & RISK
ASSESSMENT

STRATEGIC
RECOMMENDATIONS

Assumptions

- All the historical data are correctly recorded and free from reporting biases
- Losses caused by hurricanes for each building is proportional to its Total Insured Value, depending on the level of wind speed
- HELP operates in a competitive yet stable insurance market

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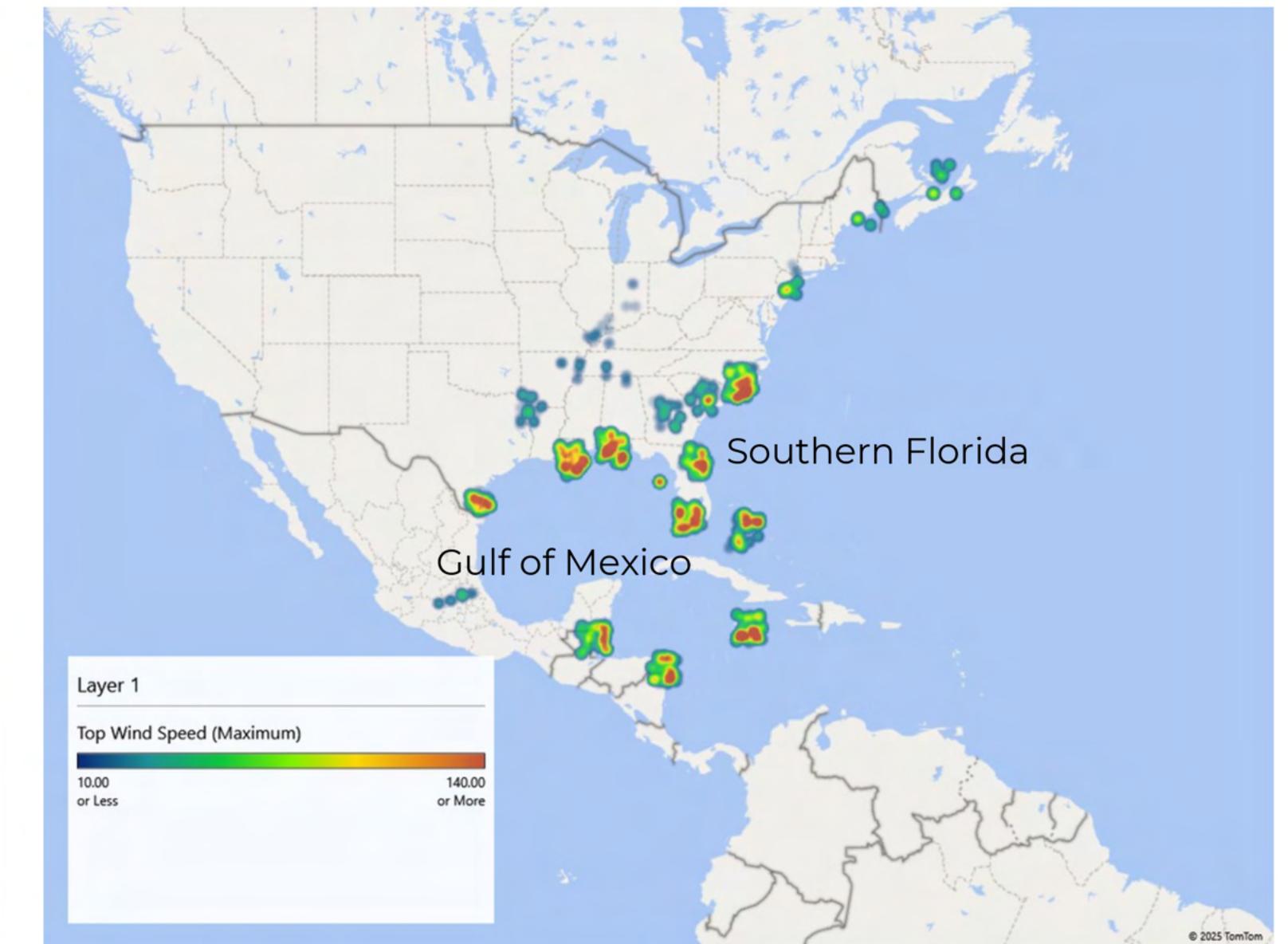
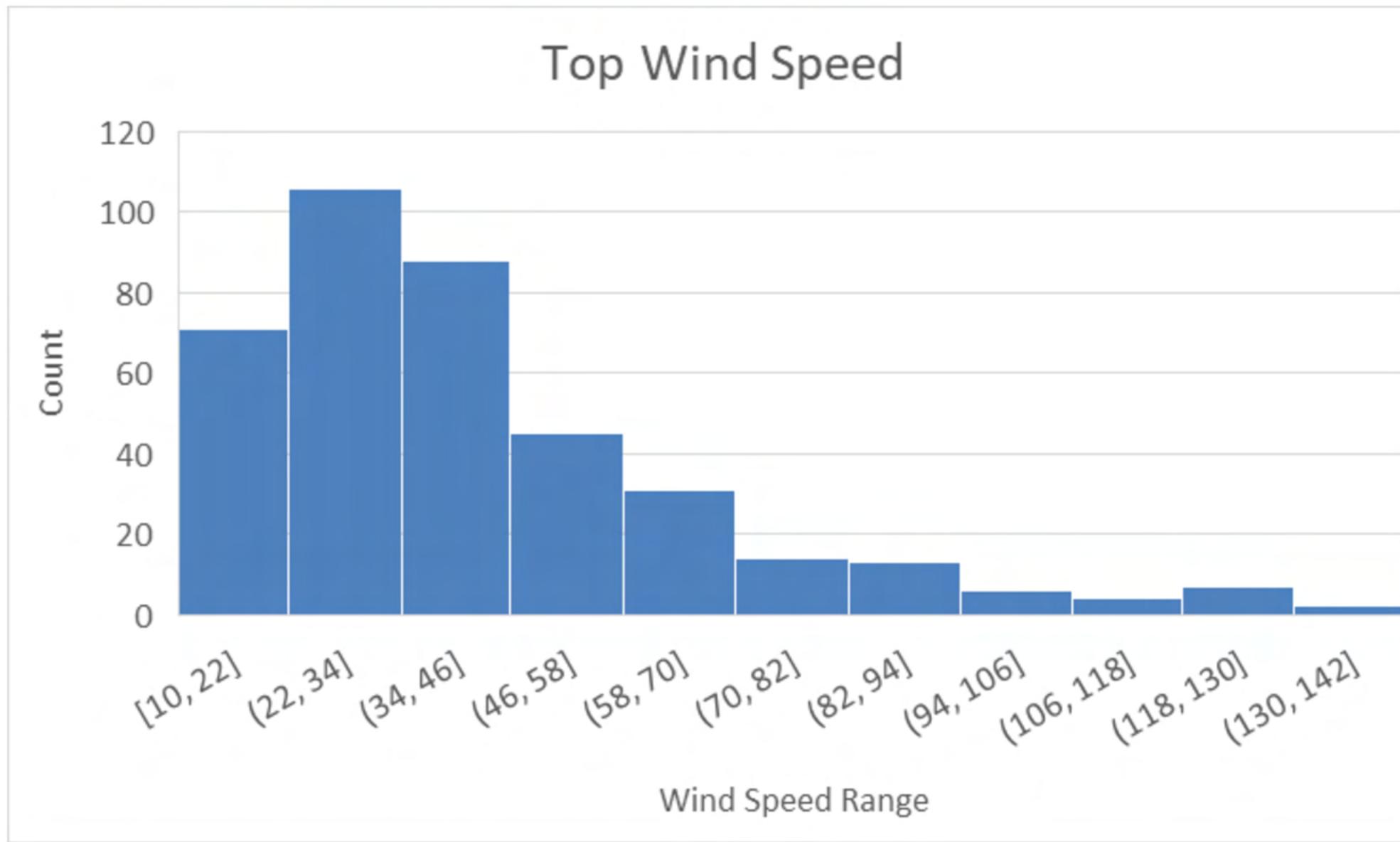
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Hurricane Risk Exposure[↗]



Wind Speed



Southeastern U.S. and Gulf of Mexico face higher risks from hurricane.

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Geographic Properties

Currently, HELP's portfolio is highly sensitive to hurricanes.

High concentration of Total Insured Value in the Southeastern U.S., meaning HELP could face large-scale claims if another major storm hits these regions.

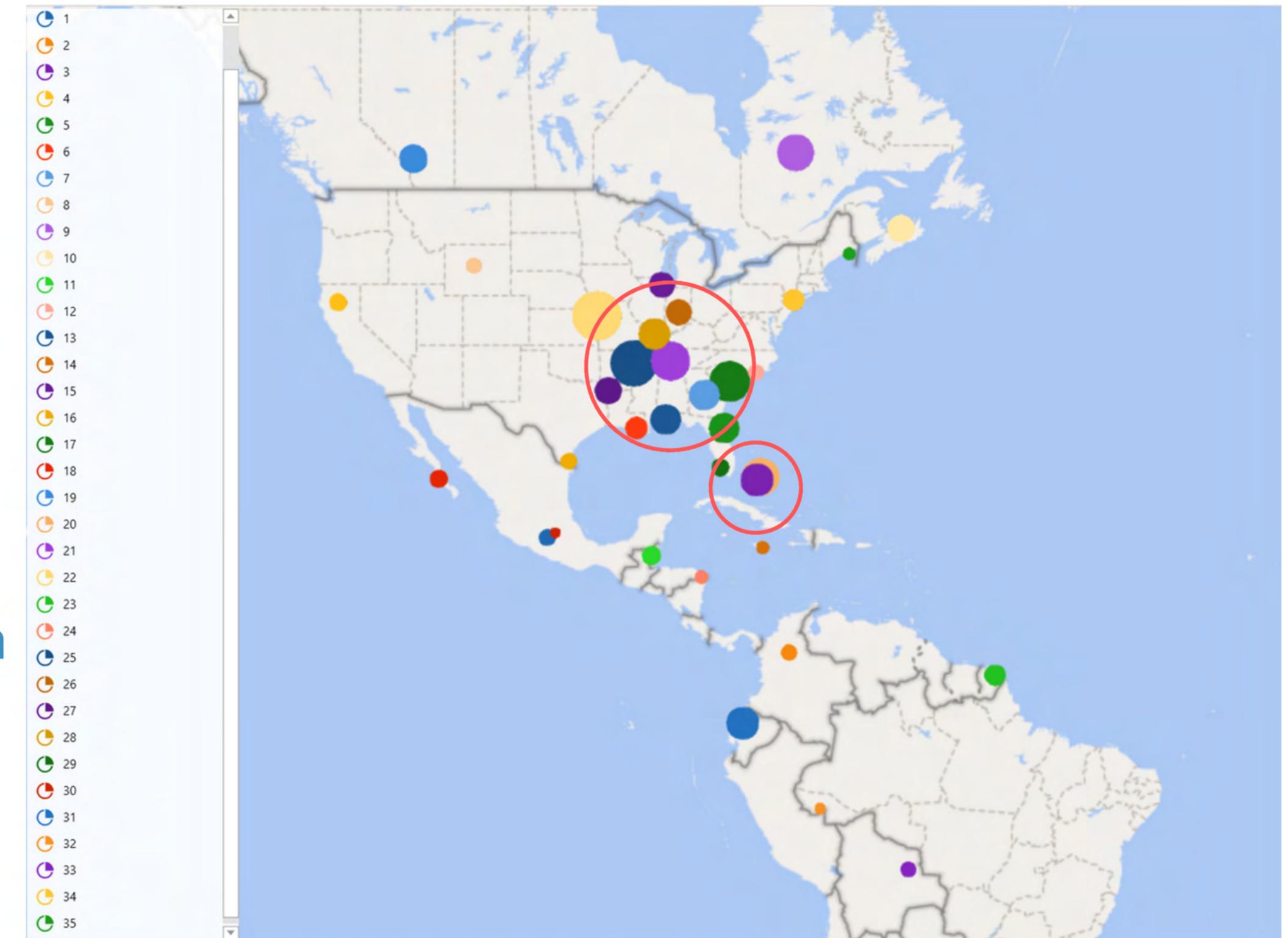


Figure: Total Insured Value in each location

Portfolio Performance ↑

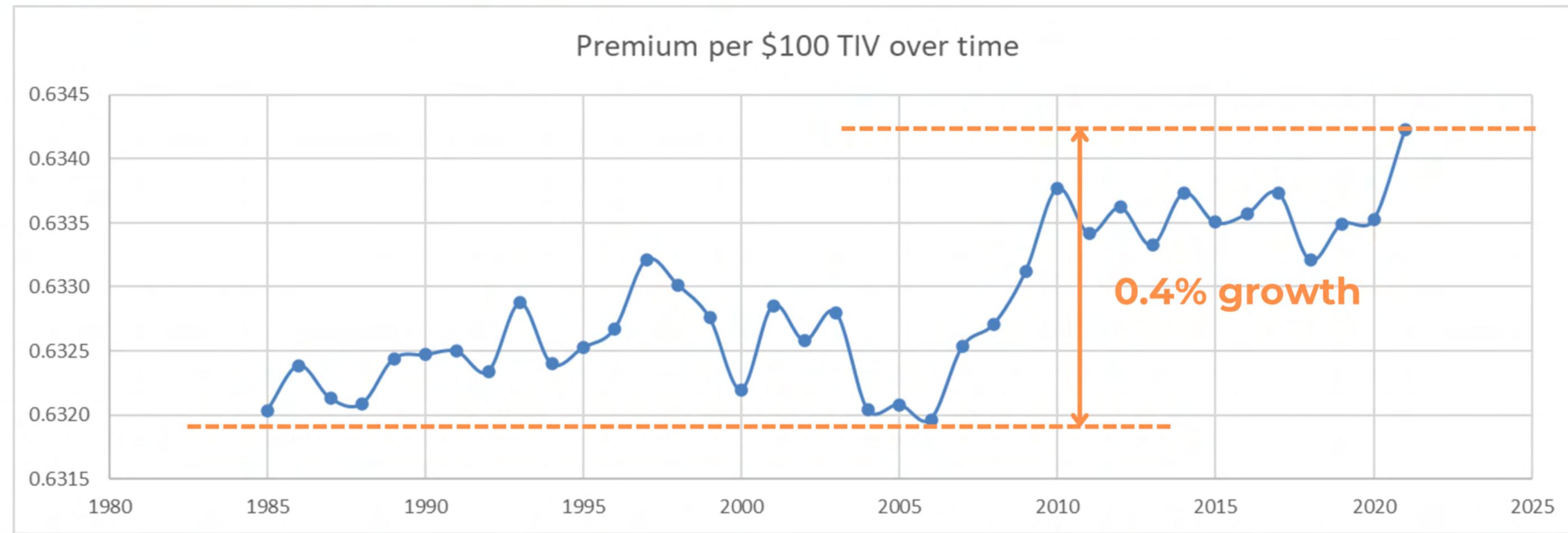
Underwriting & Risk Assessment

Premium Trends



Some low premium rates in catastrophe-prone areas indicate underpricing of risk, leading to potential losses exceeding premium income.

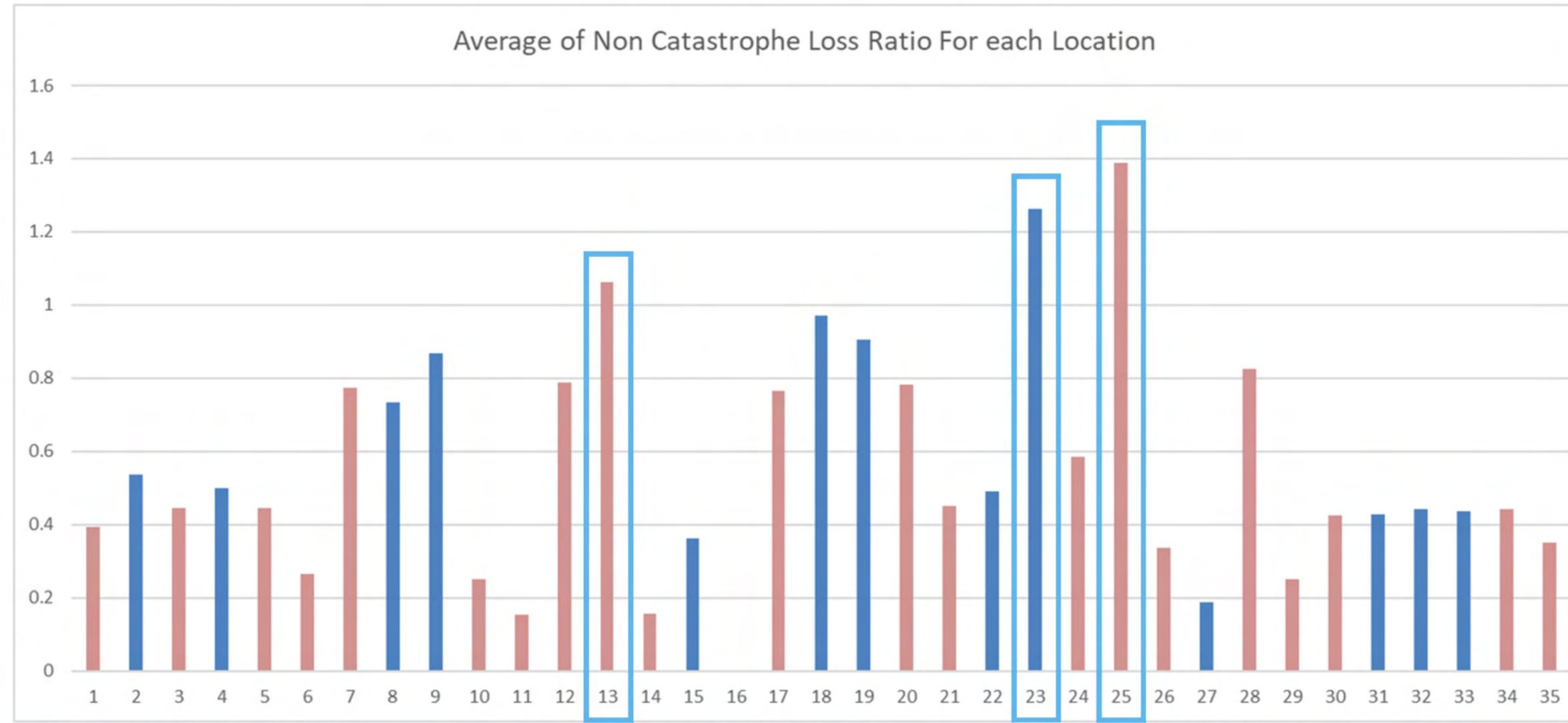
Premium Trends



While HELP has been adjusting the pricing over time, the relatively slow increase may not fully account for rising risks from climate change or increasing hurricane severity.

Loss Ratio Trends

Poor risk selection, high claim frequency, or underpriced premiums at high-loss-ratio locations 13 and 25, which are also at high hurricane risk region.



■ Low Risk from Hurricane
■ High Risk from Hurricane

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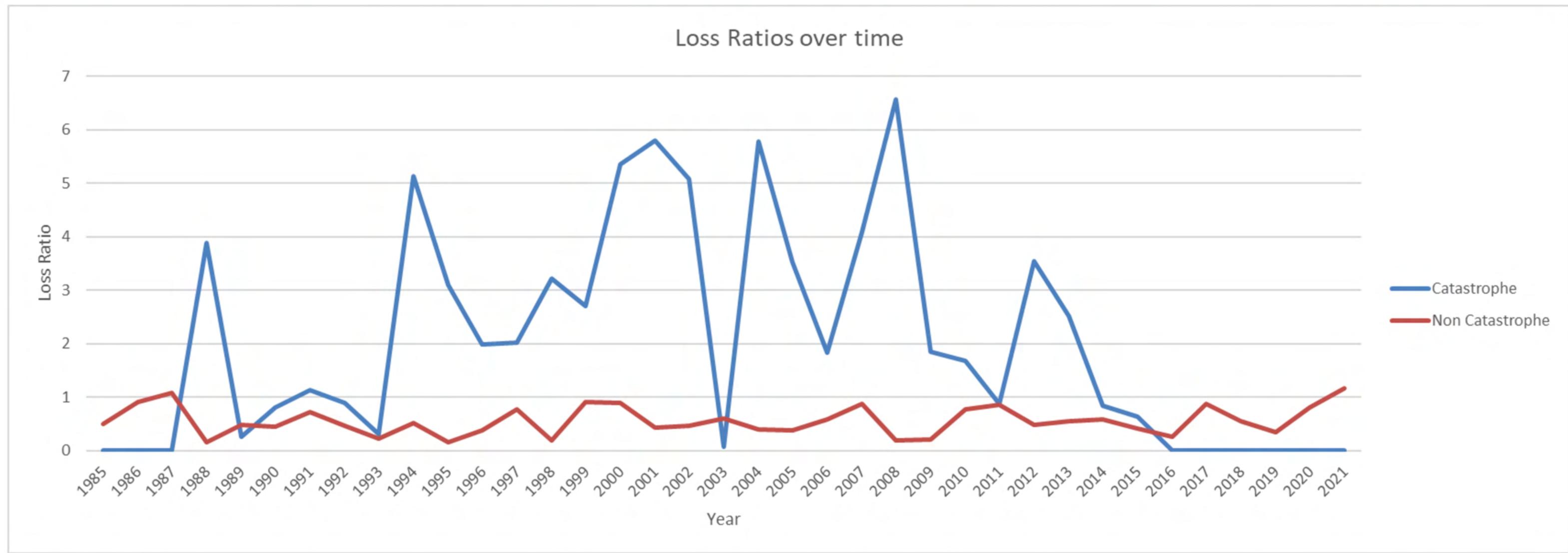
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Loss Ratio Trends

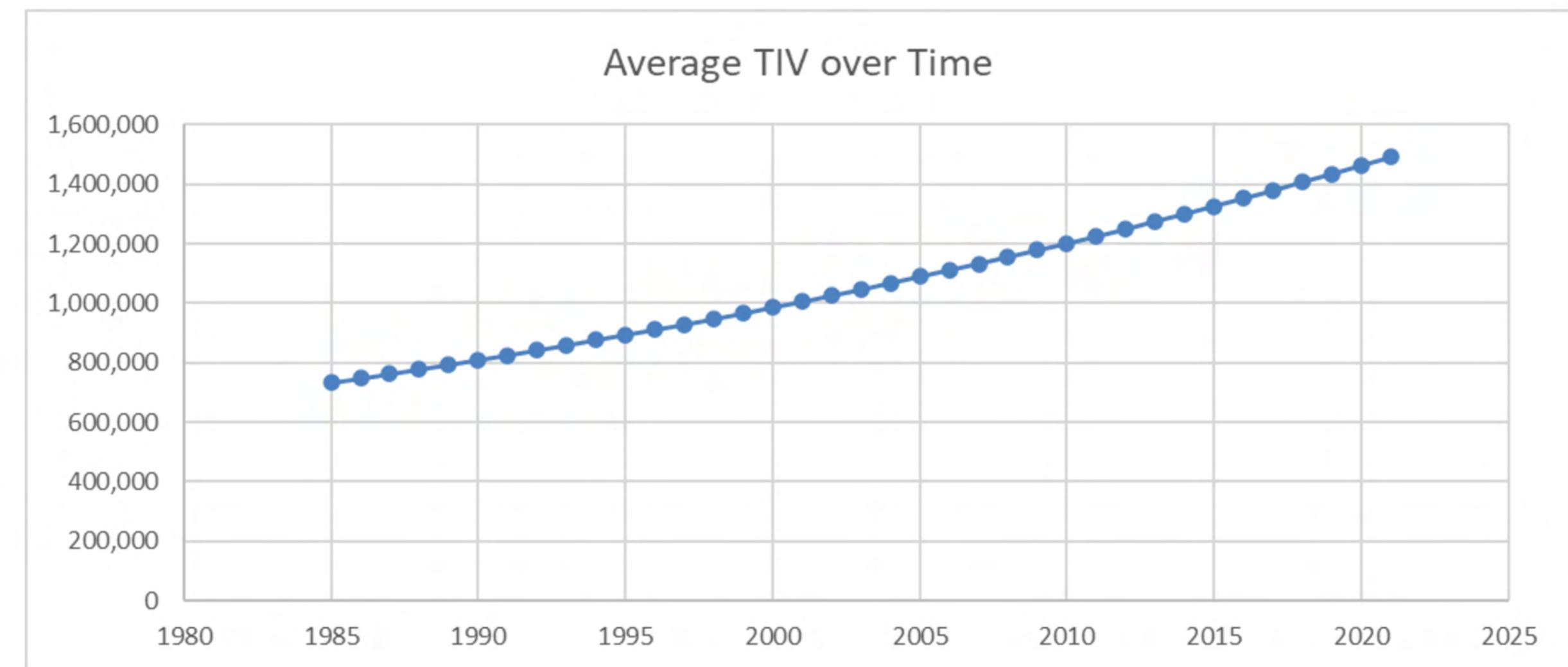
It is more predictable for non-catastrophe losses than for catastrophe losses.



If HELP isn't pricing premiums high enough in high-risk areas, they might need reinsurance or increased hurricane-specific premiums.

Total Insured Value (TIV)

The average TIV has increased over time, likely due to inflation and rising property values.



Total Insured Value (TIV)

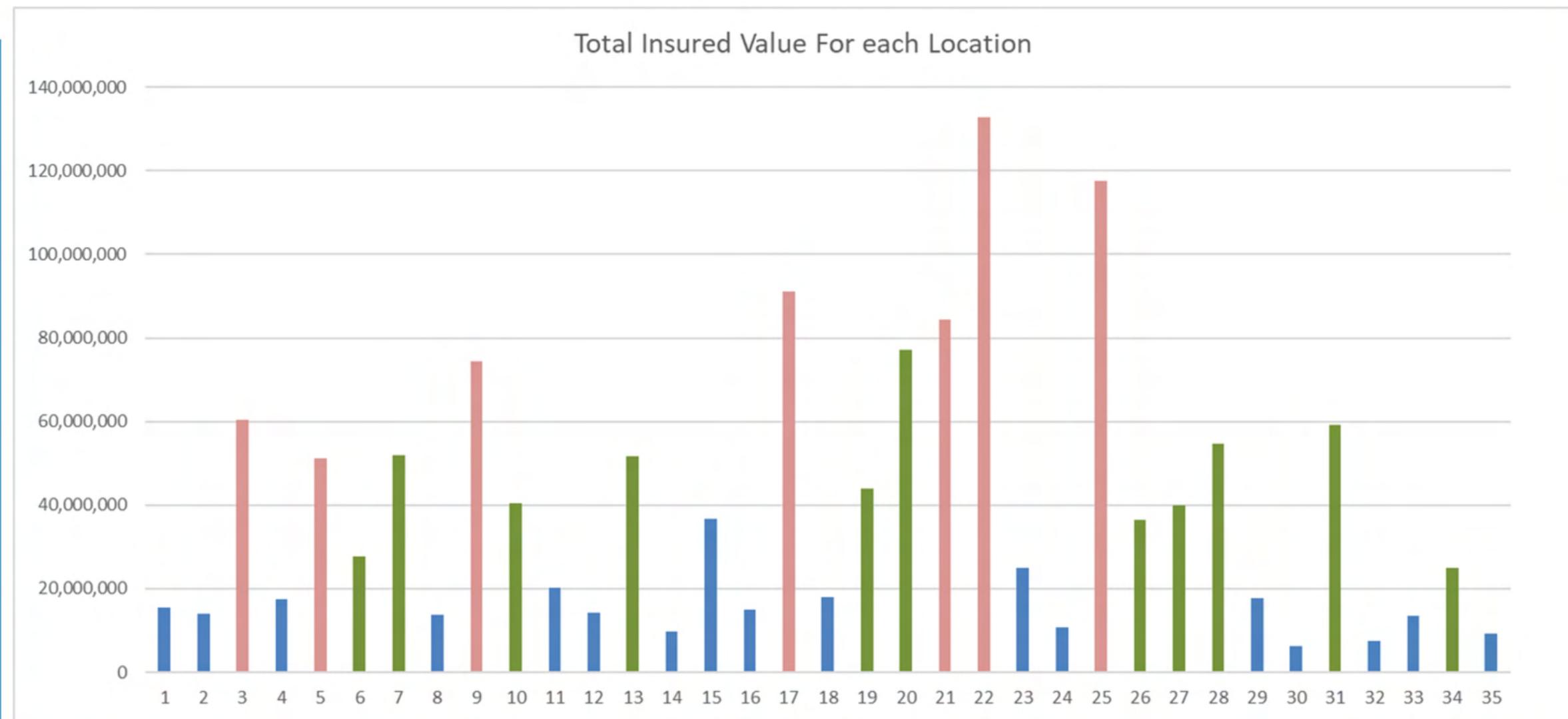
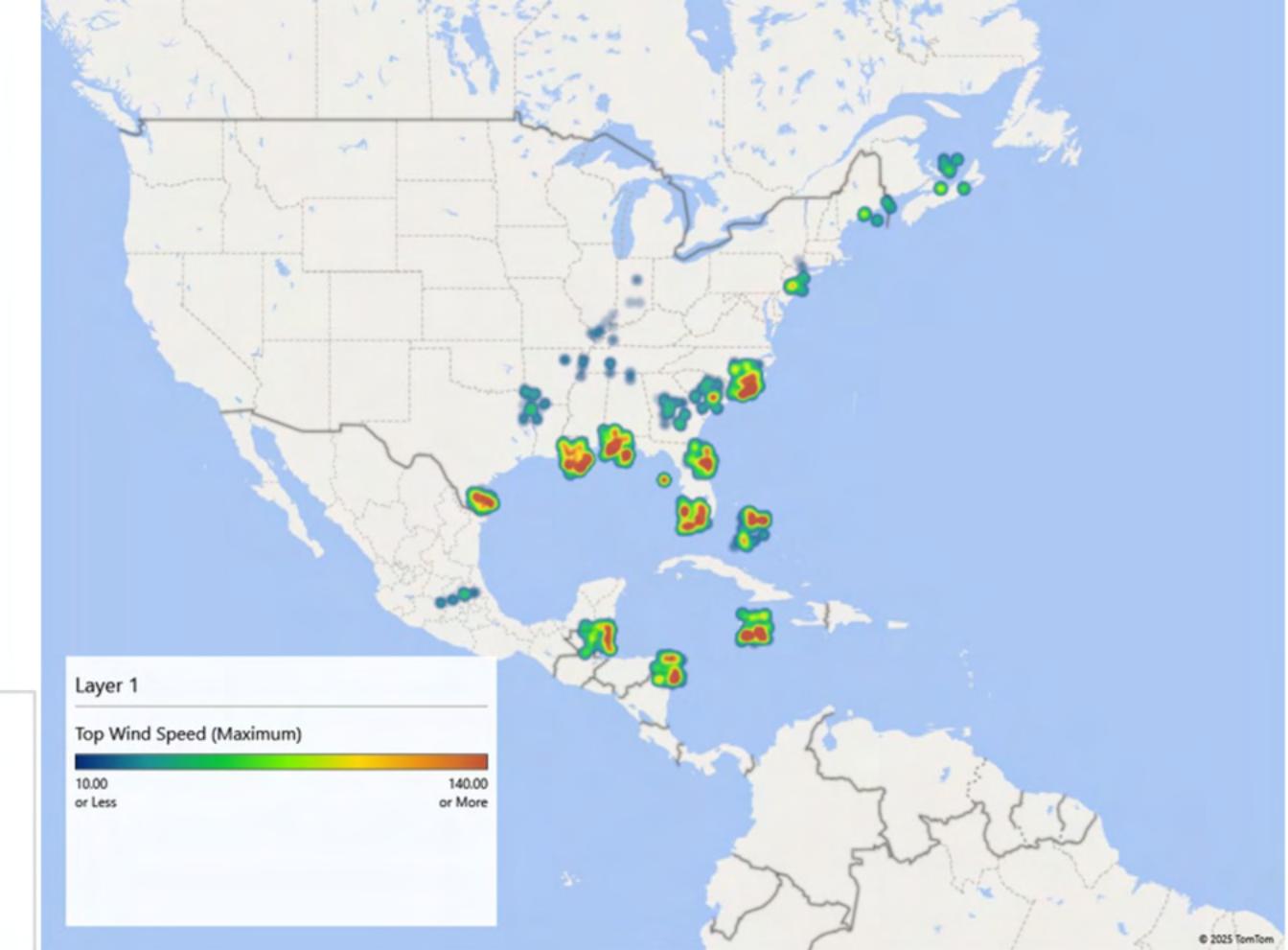


Figure: Total Insured Value in each location colored by probable losses level



- Low Probable Hurricane Losses
- Medium Probable Hurricane Losses
- High Probable Hurricane Losses

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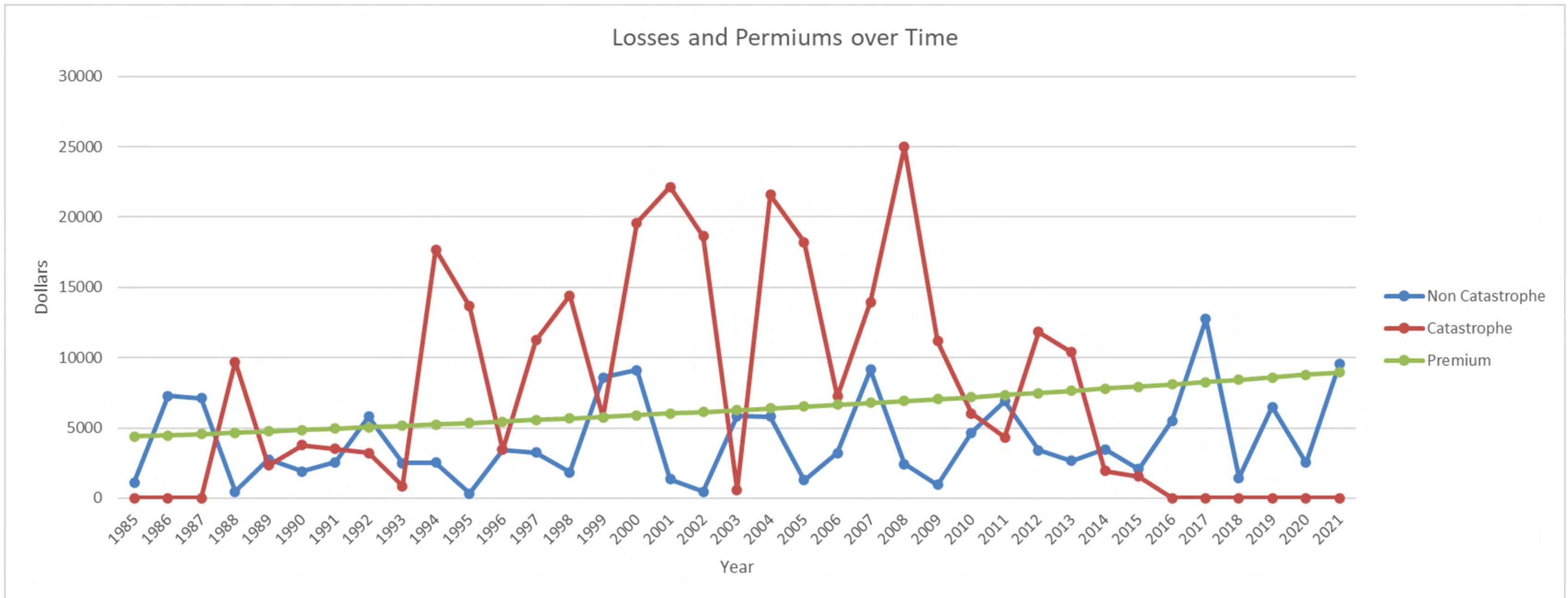
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Probable Maximum Loss Analysis[↗]

Non-catastrophe v.s. Hurricane losses

HELP's premium income is currently sufficient to cover routine non-catastrophe claims



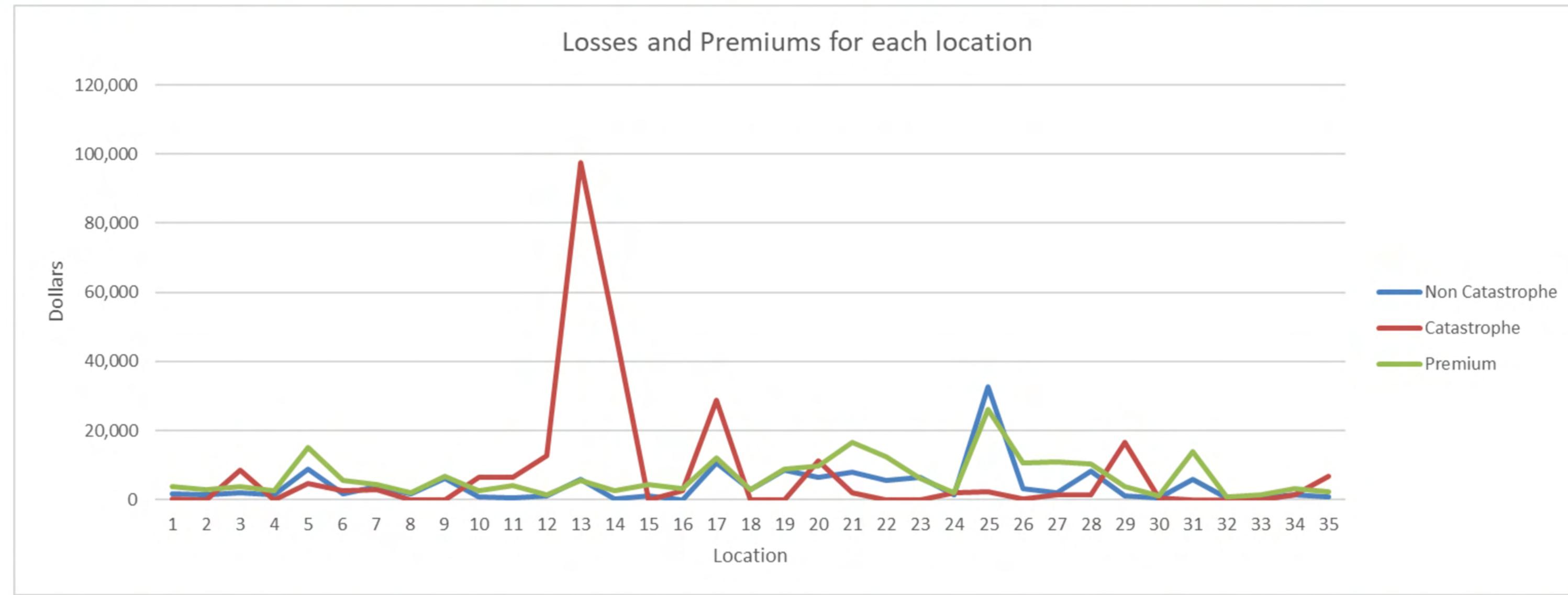
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Target Market and Audience



Location 13 is a sign for HELP to be more careful and adjust pricing and underwriting in such locations with extreme hurricane losses to better avoid financial strain.



Recommendations & Strategic Actions

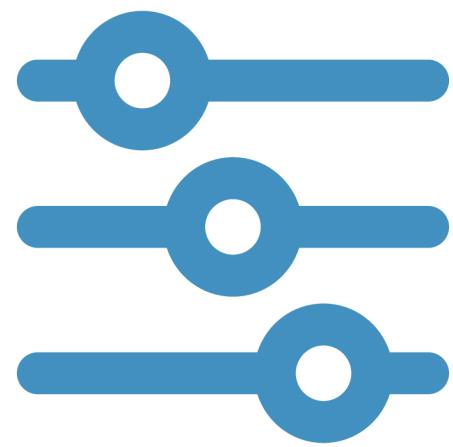
- Adjust catastrophe premiums to reflect risk volatility.
- Consider reinsurance to protect against extreme hurricane years.
- Reassess underwriting policies for hurricane-prone properties (e.g., higher deductibles, policy exclusions).
- Monitor catastrophe loss trends and prepare financial reserves accordingly.

Adjust Catastrophe Premiums

If premiums in hurricane-prone areas are not adequately priced, HELP risks severe financial strain.



**Risk-Based
Pricing**



**Experience
Rating
Adjustments**



**Flexible Pricing
Strategy**

Consider Reinsurance

If HELP lacks sufficient reserves, they could face solvency risks without external risk-sharing mechanisms like reinsurance.



Quota Share
Insurance



Catastrophe
Bonds

Reassess Underwriting Policies

While non-catastrophe underwriting appears stable, hurricane-related claims present extreme financial risk.



**Higher
Deductibles for
Hurricane
Damage**



Coverage Limits



**Stricter
Eligibility
Criteria**

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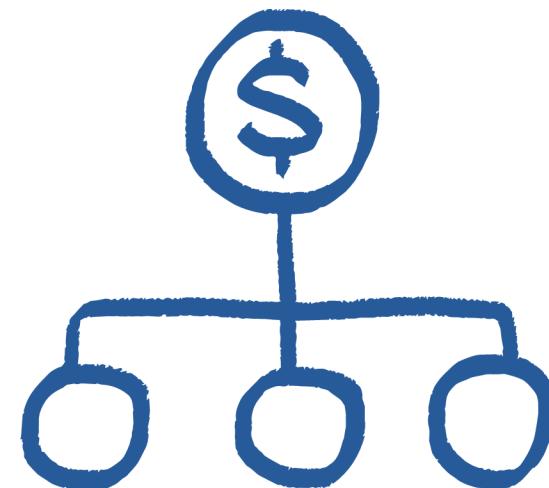
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Monitor Catastrophe Loss Trends

If HELP assumes hurricane frequency is permanently lower, they might not be prepared for future disaster years.



**Regular
Catastrophe
Risk
Assessment**



**Reserve
Allocation
Strategy**



**Scenario
Stress
Testing**

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Thank You!

Team AutoCorrect

